Honeywell

HCC334E
HCC484E

User Manual

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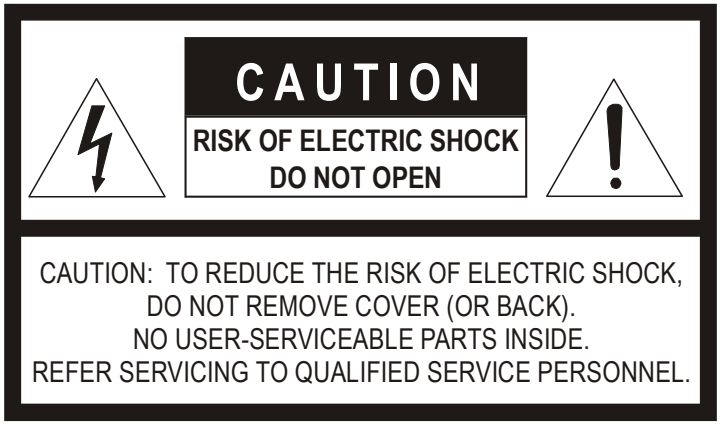
THIS CLASS A DIGITAL APPARATUS COMPLIES WITH CANADIAN ICES-003.

CET APPAREIL NUMÉRIQUE DE LA CLASSE A EST CONFORME À LA NORME NMB-003 DU CANADA.

EXPLANATION OF GRAPHICAL SYMBOLS

The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instruction in the literature accompanying the product.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

WARNINGS

Installation and servicing should be performed only by qualified and experienced personnel.

Low voltage cameras must be powered from a UL listed class 2 power supply.

For outdoor use, an appropriate protective housing conforming to IP65 or UL50 or better must be used.

Main camera is not evaluated by UL.

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS CAMERA TO RAIN OR MOISTURE.

SAFEGUARDS

This camera range is designed for use in general-purpose CCTV applications and no other purpose.

Only operate your camera between the temperature of -10ºC to +50ºC (14ºF to 122ºF).

Do not operate your camera outside its specified power supply range.

Camera must only be used in clean, dry, dust-free environments unless housed in suitable protective housings to IP65 or better.

ELECTROMAGNETIC COMPATIBILITY (EMC)

This is a class B product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures

INTENDED PURPOSE :
SECURITY AND SURVEILLANCE CCTV APPLICATIONS.

The product must be installed and maintained in accordance with good installation practice to enable the product to function as intended and to prevent problems. Refer to Honeywell Video Systems for installation guidance

MANUFACTURER'S DECLARATION OF CONFORMANCE

The manufacturer declares that the equipment supplied with this manual is compliant with the essential protection requirements of the EMC directive 89/336 and the Low Voltage Directive LVD 73/23 EEC. Conforming to the requirements of standards EN 55022 for emissions, IEC801 parts 2, 3 and 4 for immunity and EN 60065 for Electrical Equipment safety.

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SECTION 1:
INTRODUCTION

1.1 INTRODUCTION

Honeywell's HCC484E and HCC334E color cameras are ideally suited for use in day to day surveillance applications. Designed for value, the HCC484E and HCC334E save time and money with easy installation and reliable performance. Their off-the-shelf feature set is designed for high picture quality in standard applications and they require little to no adjustment once installed.

1.2 FEATURES

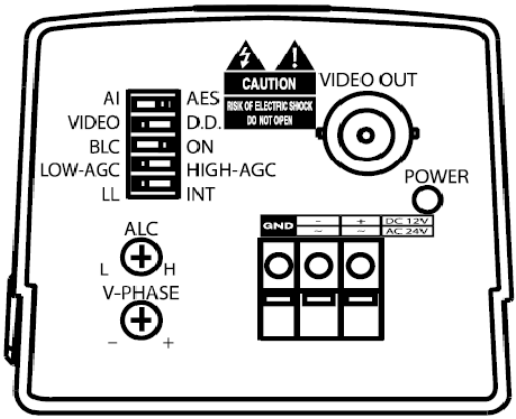
- 1/3 Color CCD with Digital Signal Processing (DSP)
- NTSC Scanning System
- 480 TV Lines Resolution (HCC484E)
  330 TV Lines Resolution (HCC334E)
- Low Light Performance
  HCC484E: 0.55 lux (f1.2)
  HCC334E: 0.66 lux (f1.2)
- Automatic Backlight Compensation (BLC)
- Automatic Electronic Shutter (AES)
- 12VDC / 24VAC with line lock
- C/CS Lens Mount
- Supports DD or Video Drive Auto Iris Lenses
- Phase Adjustable Line Lock

1.3 PACKAGE CONTENTS

1. Camera
2. Dust Cover
3. User Manual

SECTION 2:
CAMERA SETTINGS

2.1 CAMERA BACK



* Default switch positions are shown.

Figure 1: Camera Back

2.2 AI/AES MODEL SELECTOR

The Electronic Iris (EI) feature compensates for excessive light levels by automatically adjusting the shutter speed of the camera. Select ON or OFF (default).

2.3 AUTO IRIS LENS TYPE SELECTOR (VIDEO DRIVE OR DIRECT DC DRIVE)

Automatic iris lenses (direct drive (DC) or video drive types) are connected to the camera via a 4-pin square socket located at the right side of the camera. Use this switch on the rear of the camera to select the type of automatic iris lens connected. The default setting is DD (Direct or DC drive).

2.4 AGC LOW / AGC HI

The Automatic Gain Control feature can improve picture quality when the level of scene illumination is low. For most applications, AGC HI should be selected.

2.5 BACKLIGHT COMPENSATION

If a strong background light such as a window exists in a scene, the camera will try to compensate for it by reducing the overall exposure. This would mean that areas surrounding the window would become too dark. Backlight compensation (BLC) can be set to ON to eliminate the effect of an area of strong background lighting in a scene. The default setting is OFF.

BLC will only function with a manual iris lens when the Electronic Iris feature is switched on. For direct drive and video drive lenses, BLC will function even though the Electronic Iris feature is switched off.

2.6 SYNCHRONIZATION SELECTION (LL/INT)

This switch is used to select the synchronization mode of the camera. When the camera is connected to an AC supply, the Line-lock (LL) mode can be used to lock the camera's frame rate to the mains frequency so that each camera in the system is triggered at the same point on the supply's AC-cycle.
(See also Line Lock Phase Adjustment Potentiometer.)
The default setting is INT.

2.7 LINE LOCK PHASE ADJUSTMENT POTENTIOMETER

When the camera is in line-lock mode it is possible to adjust the point on the AC cycle at which the camera triggers. This facility is provided so that cameras that are connected to different mains phases may still be synchronized.

The line lock phase adjustment potentiometer allows the line lock phase trigger point to be adjusted by :1:120°. Rotating the potentiometer clockwise advances the trigger point and turning it anticlockwise retards the trigger point. The factory default setting is the zero crossing point. If all cameras in a system are on the same mains phase then no line lock phase adjustment should be made. (See also Synchronization Selection (LL/INT).)

2.8 DD LENS LEVEL ADJUSTMENT POTENTIOMETER

The Direct Drive lens level is controlled by this potentiometer. The video output signal is converted into a DC voltage by circuitry within the camera. The potentiometer sets a reference voltage against which this derived DC voltage is compared. If the DC voltage is less than the reference level, the lens iris opening is increased. If the DC voltage is greater than the reference level, the lens iris opening is decreased. This control loop attempts to continually match the DC voltage derived from the video signal, to the reference voltage set by the potentiometer. This feature allows the installer to set the required video output amplitude (e.g. 1Vpp) that the lens should strive to maintain.

2.9 POWER LED

In normal operation, the LED on the rear panel of the camera is illuminated when power is connected to the camera.

2.10 COMPOSITE VIDEO OUTPUT BNC CONNECTOR

To obtain a 1.0Vpp composite video signal, connect a video coaxial cable terminated with a 75 Ohm BNC connector to the BNC socket marked VIDEO OUT.

2.11 POWER SUPPLY

The voltage required to operate the camera is clearly marked on the rear panel of the camera. Connections are indicated above the terminals on the rear panel of the camera. The power supply must be a UL listed class 2 type.

2.12 LENS SELECTION

Suitable lens types are C- and CS-mount in fixed iris, manual iris, video auto iris or direct drive auto iris versions. Cameras are factory set for CS-mount lenses.

If using a C-mount lens, rotate the back focus adjustment mechanism fully clockwise (when viewed from the front of the camera) before fitting the lens-see Back Focus Adjustment.

2.13 BACK FOCUS ADJUSTMENT

The back focus adjustment is accessible at the front end of the camera housing to adjust the back focal length or picture focus.

The range of adjustment allows both C- and CS- mount lenses to be used without the need for a spacer ring.

2.13 BACK FOCUS ADJUSTMENT, CONTINUED

To use the back focus mechanism:

1. Unlock the back focus mechanism using the Back Focus adjustment lock (figure 1).

2. Rotate the back focus adjustment ring as required. When viewed from the front of the camera, clockwise adjustment moves the CCD sensor away from the back of the lens; counter clockwise adjustment moves the CCD sensor towards the back of the lens.

3. Lock the back focus mechanism

NOTES:

SECTION 3:
LENS INSTALLATION

3.1 INSTALLING FIXED IRIS LENSES

1. Turn the back focus adjustment ring fully clockwise (when viewed from the front)-see Back Focus Adjustment.

2. Fit the lens to the camera.

3. If the lens has a focusing ring fitted, set it to infinity (∞) then adjust the back focus.

4. Ensure the Electronic Iris (EI) and Automatic Gain Control (AGC) features are both turned ON.

3.2 INSTALLING MANUAL IRIS LENSES

1. Turn the back focus adjustment ring fully clockwise (when viewed from the front).

2. Fit the lens to the camera and rotate clockwise until the lens is fully screwed into the camera.

3. Turn the Electronic Iris (EI) and Automatic Gain Control (AGC) features ON.

4. Adjust the back focus using the back focus ring on the front of the camera. (See Section 2.13.)

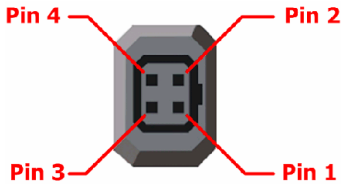
3.3 INSTALLING DIRECT (OR D.C.) DRIVE LENSES

1. Turn the back focus adjustment ring fully clockwise (when viewed from the front.)

2. Fit the lens to the camera and rotate clockwise until the lens is fully screwed into the camera.

   If the lens is equipped with a 4-pin connector, plug the connector into the terminal on the side of the camera.

   If the lens is not equipped with the connector, connect it according to the diagram below.



Pin #	DC Drive	Video Drive
Pin 1	Damp –	+12VDC
Pin 2	Damp +	NC
Pin 3	Drive +	Video
Pin 4	Drive –	GND

WARNING: The maximum load for this type of lens must not exceed 25mA.

3. Set the Auto Iris selector (Figure 1, Switch 1) to AI.

4. Set the Auto Iris lens selector to DD for direct drive lenses.

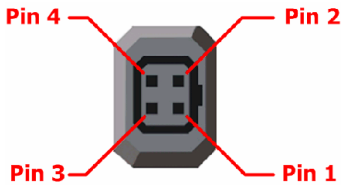
5. Adjust the back focus using the back focus mounting ring on the front of the camera. (See Section 2.13.)

6. With typical scene illumination, set the DD Lens Level adjustment potentiometer (3, figure 1), lens iris for the correct exposure. This can be achieved either visually, or by using an oscilloscope to set the output of the camera to 1 V peak-peak.

3.4 INSTALLING VIDEO DRIVE LENSES

1. Turn the back focus adjustment ring fully clockwise (when viewed from the front)-see Back Focus Adjustment.

2. Fit the lens to the camera and connect it according to the diagram below.



Pin #	DC Drive	Video Drive
Pin 1	Damp –	+12VDC
Pin 2	Damp +	NC
Pin 3	Drive +	Video
Pin 4	Drive –	GND

WARNING: The maximum load for this type of lens must not exceed 50mA.

3. Set the Auto Iris selector (Figure 1, Switch 1) to AI.

4. Set the Auto Iris lens selector switch to Video for video auto iris lenses.

5. Adjust the back focus using the back focus mounting ring on the front of the camera. (See Section 2.13.)

6. With typical scene illumination, set the Lens Level adjustment potentiometer for the correct exposure. This can be done visually. More accurate results will be achieved using a video level meter or oscilloscope to set the output of the camera to 1V peak-peak.

7. If the scene lighting conditions are extremely uneven, it may be necessary to adjust the lens's Peak Average potentiometer. Refer to the lens instructions.

3.5 CAMERA MOUNTING

Mounting points are provided on the top and bottom of the camera and are used to mount the camera on a bracket or tripod. They are designed to accept standard photographic mounting bolts (1/4" BSW or 20 UNC).

The mounting bracket must be capable of supporting the weight of the camera and its lens. In cases where the lens is substantially heavier than the camera, it is better to use the mounting point on the lens itself.

NOTE: Some installation codes dictate that the mounting bracket must be capable of supporting up to four times the combined weight of the camera and lens.

The mounting bracket is not evaluated by UL.

NOTES:

SECTION 4:
TROUBLESHOOTING

4.1 NO POWER / LED NOT LIT

1. Check power connections.
2. Verify that the power supply is working.
   (Use a camera that is known to be good.)

4.2 NO VIDEO

1. Check Power (see above).
2. Check BNC connections.
   (Use a camera that is known to be good.)
3. Check Lens.
   Remove lens, if video present, lens is source of problem.

4.3 POWER BUT PICTURE IS BLACK

1. DC Iris Check Auto iris lens selector switch is set to DC.
2. Increase DC level.
3. Check wiring connections.
4. Manual Iris: Check to make sure that iris is not closed.

4.4 VIDEO IRIS

1. Verify that Auto iris lens selector switch is set to AI. Increase level on lens.
2. Check wiring connections.
3. Try lens on another camera or known good lens on camera.

4.5 DARK PICTURE

1. Check lens iris.
2. Check coax termination is 75Ohm.

4.6 PICTURE NOISE/GRAINY DURING DAYLIGHT OPERATION

Verify lens iris level with AGC function disabled.

4.7 PICTURE TOO BRIGHT

- **Manual IRIS:** Switch electronic iris ON.
- **DC IRIS:** Switch electronic iris OFF, reduce DC level.
- **Video IRIS:** Switch electronic iris OFF, reduce level on lens.

4.8 PICTURE NOT SHARP (OUT OF FOCUS)

1. Adjust focus on lens
2. Adjust back focus

4.9 PICTURE GOES SOFT (OUT OF FOCUS) IN LOW LIGHT

Adjust focus under low light conditions or use a neutral density filter under normal lighting conditions.

NOTES:

SECTION 5:
SERVICE AND SUPPORT

5.1 SERVICE AND SUPPORT

Refer servicing to qualified personnel or contact the Technical Support at 1-800-796-CCTV for assistance.

5.2 LIMITED WARRANTY

Honeywell International Inc. ("Seller"), 1305 Waters Ridge Drive, Lewisville, TX 75057, warrants this camera to be in conformance with its own plans and specifications and to be free from defects in materials and workmanship under normal use and service for a period of up to two (3) years from the date of manufacture. Seller's obligation shall be limited to repairing or replacing, at its option, free of charge for materials or labor, any product which is proved not in compliance with Seller's specifications or proves defective in materials or workmanship under normal use and service. Seller shall have no obligation under this Limited Warranty or otherwise if the product is altered or improperly repaired or serviced by anyone other than Honeywell factory service. For warranty service, return product transportation prepaid, to Honeywell Video Systems Factory Service, 1305 Waters Ridge Drive, Lewisville, TX 75077.

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. IN NO CASE SHALL SELLER BE LIABLE TO ANYONE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR BREACH OF THIS OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, OR UPON ANY OTHER BASIS OF LIABILITY WHATSOEVER, EVEN IF THE LOSS OR DAMAGE IS CAUSED BY THE SELLER'S OWN NEGLIGENCE OR FAULT.

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SECTION 6:
SPECIFICATIONS

6.1 GENERAL SPECIFICATIONS

	HCC484E	HCC334E
Image Sensor	1/3 Format Interline CCD Sensor	
Pixel Elements	768 (H) × 494 (V) approx. 380K pixels	510 (H) × 492 (V) approx. 250K pixels
Scanning Frequency	NTSC 2 : 1 Interlace / H : 15750Hz , V : 59.94Hz	
Operation Temperature	-10˚C ~ +50˚C	
Storage Temperature	-20˚C ~ +60˚C	
Output Terminals	BNC 75Ohm Unbalance	
Input Terminals	3pin Push Lock Terminal Block	
Power Source	12VDC / 24VAC	
Power Consumption	4.2W Max,	
Power Indicator	3ø Green LED on Rear Panel	
IRIS Connector	4pin Connector on Side (Panasonic Standard) for Video and DC Drive.	
Lens Mount	CS ~ C Mount Adjustable	
Back Focus Adjust	CS Mount 11mm ~ C Mount 18mm	
Mounting Hole	1/4” Top and Bottom	

6.2 VIDEO SPECIFICATIONS

	HCC484E	HCC334E
Resolution	480 TV Lines	330 TV Lines
Minimum Illumination	0.55Lux @ F=1.2 (50IRE Video Output)	0.66Lux @ F=1.2 (50IRE Video Output)
Video Output	1.0Vpp 75Ohm BNC unbalance	
S/N Ratio	50dB	
AGC High Gain	36dB	
AGC Low Gain	30dB	
H Aperture	10 IRE (r 0.45 100IRE Video Output)	
V Aperture	10 IRE (r 0.45 100IRE Video Output)	
Gamma Compensation	0.45	

Specifications are subject to change without prior notice for product improvements. Actual specifications may vary depending on features and components.

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